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EXAMINER

CORRIELUS, JEAN M

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/808,774

Applicant(s)

OHEDA, TAKASHI

Examiner

Jean M Corrielus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

1. This office action is in response to the divisional application filed on March 24, 2004, in which claims 1-14 are presented for examination.

### *Priority*

2. The divisional application filed on March 30, 2001 complies with 35 U.S.C. 120 and 37 CFR 1.78. It has been placed in the application file. The information referred to therein has been considered as to the merits

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/823,640, filed on April 11, 2000. It has been placed in the application file. The information referred to therein has been considered as to the merits

### *Information Disclosure Statement*

4. The information disclosure statement (IDS) filed on June 6, 2005 complies with the provisions of M.P.E.P 609. It has been placed in the application file. The information referred to therein has been considered as to the merits.

### *Drawings*

5. Applicants are required to furnish the formal drawings in response to this office action if the formal drawings have not been submitted. No new matter may be introduced in the required drawings. Failure to timely submit a drawing will result in ABANDONMENT of the application.

### *Claim Objections*

6. Claim 4 is objected to because of the following informalities: claim 4 line 3, after “database;” please insert –and--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raz et al., (hereinafter “Raz”) US Patent no. 5,852,715 in view of Kurauchi et al (hereinafter “Kurauchi”) US Patent No. 6,704,489.

As to claims 1 and 11, Raz the claimed “a disk storage that stores a plurality of databases” a data storage (10), wherein the data storage (10) stores a working database (80), wherein the working database (80) is updated to generated a copy of the working database (90) (page 2, lines 17-24, and lines 30-34); and “a network that interconnects said disk storage and the server”. However, Raz does not explicitly disclose a module that control data transfer bandwidth. On the other

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hand, Kurauchi, on the other hand, discloses a resource management system that dynamically allocates various types of resources to various processes executed under the control of a multitask environment. In particular, Kurauchi discloses the claimed “a module that combines databases, said module disposed in a server connected to said disk storage system” as a service programs corresponding to server (2200a) to (2200n) (col.15, lines 38-45); “wherein the module that combines databases, responsive to receiving user-requested specification, control data transfer bandwidth for reflecting update data from a database in said disk storage system to another database, and wherein the disk storage system performs resource allocations for said bandwidth responsive to control from said module that combine database” calculating the limit for the data transfer bandwidth and the allocated volume for each resource using the resource management information database (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references, therein because the resource management system as disclosed by Kurauchi would provide Raz’s system the enhanced capability of recording data information, thereby enabling the replication of such a distributed system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

As to claims 2 and 12, Raz the claimed “a disk storage that stores a plurality of databases” a data storage (10), wherein the data storage (10) stores a working database (80), wherein the working database (80) is updated to generated a copy of the working database (90) (page 2, lines 17-24,

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and lines 30-34); and “a network that interconnects said disk storage and the server”. However, Raz does not explicitly disclose a module that control data transfer bandwidth and refresh rate. On the other hand, Kurauchi, on the other hand, discloses a resource management system that dynamically allocates various types of resources to various processes executed under the control of a multitask environment. In particular, Kurauchi discloses the claimed “a module that combines databases, said module disposed in a server connected to said disk storage system” as a service programs corresponding to server (2200a) to (2200n) (col.15, lines 38-45); and “wherein said module that combines databases, responsive to receiving user-requested specifications relating to a requested refresh rate and a replication data volume, determines a required bandwidth and resources therefor in order to satisfy said user-requested specifications, and wherein said module that combines databases controls resources of said disk storage system; and wherein said disk storage system performs resource allocations for said bandwidth based on control from said module that combines databases” (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because the resources management system as disclosed by Kurauchi would provide Raz’s system the enhanced capability of recording data information, thereby enabling the replication of such a distributed system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

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As to claim 3, Raz discloses the claimed discloses the claimed “a disk storage system that stores a plurality of databases, wherein said disk storage subsystem reflects update data from a first database to a second database under control of said module that controls replica creation” ” a data storage (10), wherein the data storage (10) stores a working database (80), wherein the working database (80) is updated to generated a copy of the working database (90) (page 2, lines 17-24, and lines 30-34). However, Raz does not explicitly disclose a module that control data refresh rate. On the other hand, Kurauchi, on the other hand, discloses a resource management system that dynamically allocates various types of resources to various processes executed under the control of a multitask environment. In particular, Kurauchi discloses the claimed “a module that combines databases, said module disposed in a server connected to said disk storage system” as a service programs corresponding to server (2200a) to (2200n) (col.15, lines 38-45); “a module that controls refreshes responsive to a requested refresh rate” (col.); “a module that controls replica creation; wherein said module that controls refreshes further comprises a module that combines databases, which instructs, at intervals based on said requested refresh rate, said module that controls replica creation to replicate at least one database” ” (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45 and 15, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because the resources management system as disclosed by Kurauchi would provide Raz’s system the enhanced capability of recording data information, thereby enabling the replication of such a distributed system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

As to claim 4, Raz discloses the claimed discloses the claimed “a disk storage system that stores a plurality of databases, wherein said disk storage subsystem reflects update data from a first database to a second database under control of said module that controls replica creation” ” a data storage (10), wherein the data storage (10) stores a working database (80), wherein the working database (80) is updated to generated a copy of the working database (90) (page 2, lines 17-24, and lines 30-34). However, Raz does not explicitly disclose a module that control data transfer bandwidth. On the other hand, Kurauchi, on the other hand, discloses a resource management system that dynamically allocates various types of resources to various processes executed under the control of a multitask environment. In particular, Kurauchi discloses the claimed “a module that combines databases” as a service programs corresponding to server (2200a) to (2200n) (col.15, lines 38-45); “when data from a data warehouse database is to be reflected in a plurality of data marts, measures replication processing time and, if said processing time is at or exceeds requested specifications, creates a replica of a data warehouse database in said disk storage system” (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because the resources management system as disclosed by Kurauchi would provide Raz’s system the enhanced capability of recording data information, thereby enabling the replication of such a distributed system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

As to claims 5 and 8, Raz discloses the claimed discloses the claimed “a disk storage system that stores a plurality of databases, wherein said disk storage subsystem reflects update data from a first database to a second database under control of said module that controls replica creation” a data storage (10), wherein the data storage (10) stores a working database (80), wherein the working database (80) is updated to generated a copy of the working database (90) (page 2, lines 17-24, and lines 30-34). However, Raz does not explicitly disclose a replication using resources of the disk subsystem. On the other hand, Kurauchi, on the other hand, discloses a resource management system that dynamically allocates various types of resources to various processes executed under the control of a multitask environment. In particular, Kurauchi discloses the claimed discloses the claimed “allocating resources to perform a copy within said disk storage subsystem” (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60); and “replicating content from said first database to said second database, wherein said replicating is performed using said resources in said disk subsystem substantially independently of sending said content over said network” (col.15, lines 1-8, col.16, lines 62-col.17, col.17, line 2, lines 44-60; col.20, lines 45-48; col.21, lines 8-23; col.24, lines 43-66). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because the resources management system as disclosed by Kurauchi would provide Raz’s system the enhanced capability of recording data information, thereby enabling the replication of such a distributed

system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

As to claim 6, Kurauchi discloses the claimed “replicating said content from said first database to an intermediate database, said intermediate database disposed on a shared volume of both said first format and said second format” (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60); and “replicating said content form said intermediate database to said second database” (col.15, lines 1-8, col.16, lines 62-col.17, col.17, line 2, lines 44-60; col.20, lines 45-48; col.21, lines 8-23; col.24, lines 43-66).

As to claim 7, Kurauchi discloses the claimed “receiving at said third server at least one of a plurality of requested specifications relating to replication” (col.15, lines 1-8, col.16, lines 62-col.17, line 2, lines 44-60; col.20, lines 45-48; col.21, lines 8-23; col.24, lines 43-66); “determining a data transfer capacity according to said specifications” (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60); “determining at least one of a plurality of data transfer capacity settings according to said data transfer capacity” (col.16, 62-67; col.18, lines 45-58.); “notifying said disk subsystem of said data transfer capacity settings” (col.21, lines 15-40; col.23, lines 21-50); and “allocating resources in said disk

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subsystem for data transfer based on said data transfer capacity settings” (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5, lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60).

As to claim 9, Raz discloses the claimed discloses the claimed “a disk storage system that stores a plurality of databases, wherein said disk storage subsystem reflects update data from a first database to a second database under control of said module that controls replica creation” a data storage (10), wherein the data storage (10) stores a working database (80), wherein the working database (80) is updated to generated a copy of the working database (90) (page 2, lines 17-24, and lines 30-34). However, Raz does not explicitly disclose data transfer capacity settings. On the other hand, Kurauchi, on the other hand, discloses a resource management system that dynamically allocates various types of resources to various processes executed under the control of a multitask environment. In particular, Kurauchi discloses the claimed “wherein said disk storage subsystem copies content from a first database to a second database using resources in said disk subsystem substantially independently of sending said content over said information channels” (col.15, lines 1-8, col.16, lines 62- col.17, line 2, lines 44-60; col.20, lines 45-48; col.21, lines 8-23; col.24, lines 43-66); and “wherein said disk storage subsystem performs copies said content in accordance with a resource allocation received from one of said plurality of computers, said resource allocation based upon at least one of a plurality of data transfer capacity settings determined by said one of said plurality of computers in accordance with a data transfer capacity and at least one of a plurality of received specifications” (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5, lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-

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53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because the resources management system as disclosed by Kurauchi would provide Raz's system the enhanced capability of recording data information, thereby enabling the replication of such a distributed system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

As to claim 10, Raz discloses the claimed discloses the claimed "a disk storage system that stores a plurality of databases" a data storage (10), wherein the data storage (10) stores a working database (80), wherein the working database (80) is updated to generated a copy of the working database (90) (page 2, lines 17-24, and lines 30-34). However, Raz does not explicitly disclose data transfer capacity settings. On the other hand, Kurauchi, on the other hand, discloses a resource management system that dynamically allocates various types of resources to various processes executed under the control of a multitask environment. In particular, Kurauchi discloses the claimed "a first server and a second server, interconnected by a network to said disk storage subsystem, wherein said disk storage subsystem replicates content of a first database associated with said first server to a second database associated with said second server, said first database and said second database disposed in said disk storage subsystem, wherein said disk storage subsystem allocates resources to perform content replication within said disk storage subsystem; and said disk storage subsystem replicates content from said first database to said second database" (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-

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65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60); “wherein said replicating is performed substantially independently of sending said content over said network” (col.15, lines 1-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because the resources management system as disclosed by Kurauchi would provide Raz’s system the enhanced capability of recording data information, thereby enabling the replication of such a distributed system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

As to claim 13, Raz discloses the claimed “a disk storage system storing a plurality of databases, connected to a network, and including an interface relating to a plurality of heterogeneous database management systems, a shared volume acting as an intermediate file in replication operations, a plurality of host paths sending and receiving data to and from a server” (col.2, lines 42-67; col.6, lines 2-61); and “means for creating replicas creating snapshots of a database serving as a transfer source of data in replication operations” (col.6, lines 2-35; col.7, lines 23-65). However, Raz does not explicitly disclose the use of controlling a data transfer bandwidth. Kurauchi, on the other hand, discloses the claimed “means for combining databases disposed in a server connected to said network, receiving user-requested specifications relating to requested data refresh rates and replication data volume, and specifying a number of said host paths, a number of said shared volumes, and a number of replicas based on snapshots in order to satisfy said requested specifications”(col.15, lines 1-8, col.16, lines 62- col.17, line 2, lines 44-60;

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col.20, lines 45-48; col.21, lines 8-23; col.24, lines 43-66); and “wherein said disk storage system allocates said host paths and said shared volumes as specified, executes snapshots, reports results to said server, and allocates resources relating to said bandwidth” (col.3, line 66- col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60); “wherein said replicating is performed substantially independently of sending said content over said network” (col.15, lines 1-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because the resources management system as disclosed by Kurauchi would provide Raz’s system the enhanced capability of recording data information, thereby enabling the replication of such a distributed system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

As to claim 14, Raz discloses the claimed “a disk storage system storing a plurality of databases, and reflecting update data from a database to another database based on control from said replica creating means” (col.2, lines 42-67; col.6, lines 2-61). However, Raz does not explicitly disclose the claimed “means for controlling refreshes receiving a requested refresh rate” (col.); “means for creating replicas controlling replica creation; and said refresh controlling means including means for combining database instructing, at intervals based on said requested refresh rate, said

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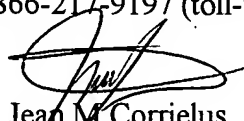
replica creating means to execute replication". On the other hand, discloses the claimed "means for controlling refreshes receiving a requested refresh rate" (col.15, lines 1-8, col.16, lines 62-col.17, col.17, line 2, lines 44-60; col.20, lines 45-48; col.21, lines 8-23; col.24, lines 43-66); "means for creating replicas controlling replica creation; and said refresh controlling means including means for combining database instructing, at intervals based on said requested refresh rate, said replica creating means to execute replication" (col.3, line 66-col.4, line 6; col.4, lines 56-65; col.5 lines 53-60; col.6, lines 63-65; col.7, lines 55-65; col.9, lines 46-53; col.14, lines 42-45; col.16, lines 62-col.17, col.17, line 2, lines 44-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because the resources management system as disclosed by Kurauchi would provide Raz's system the enhanced capability of recording data information, thereby enabling the replication of such a distributed system in an efficient manner even when the desired information flow/rate temporarily surpasses to instantaneous capacity of the transfer system.

### *Conclusion*

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean M Corrielus whose telephone number is (571) 272-4032. The examiner can normally be reached on 10 hours shift.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jean M Corrielus  
Primary Examiner  
Art Unit 2162

June 20, 2005